

In the Claims

Claims 1-48 (cancelled).

49. (new) A deposition method comprising:

contacting a substrate with a first initiation precursor and forming a first portion of an initiation layer on the substrate, the substrate comprising a semiconductor material; and

contacting at least a part of the substrate with a second initiation precursor different from the first initiation precursor and forming a second portion of the initiation layer on the substrate in a region less susceptible to formation of the first portion of the initiation layer than to formation of the second portion.

50. (new) The deposition method of claim 49, wherein the initiation layer consists essentially of a monolayer of the first and second initiation precursors.

51. (new) The deposition method of claim 49, wherein the contacting with the first initiation precursor and the contacting with the second initiation precursor occur simultaneously.

52. (new) The deposition method of claim 49, wherein substantially all of the first portion of the initiation layer is continuous and at least some of the second portion of the initiation layer is not continuous.

53. (new) The deposition method of claim 49, wherein the second portion of the initiation layer does not form over the first portion of the initiation layer.

54. (new) The deposition method of claim 49, wherein the forming the second portion of the initiation layer substantially fills holes in the first portion of the initiation layer.

55. (new) The deposition method of claim 49, further comprising contacting the first and second portions of the initiation layer with a deposition precursor and forming a deposition layer on the first and second portions of the initiation layer.

56. (new) The deposition method of claim 55, further comprising contacting the deposition layer with a third initiation precursor different from both the first and second initiation precursor and forming a second initiation layer on the deposition layer.

57. (new) A deposition method comprising:
contacting a substrate with a first initiation precursor and forming a first portion of an initiation layer on an insulative portion of the substrate, the substrate being over a bulk silicon wafer; and

contacting at least a part of the substrate with a second initiation precursor different from the first initiation precursor and forming a second portion of the initiation layer on a conductive portion of the substrate, the conductive portion forming a part of a capacitor structure.

58. (new) The method of claim 57 wherein the initiation layer consists essentially of a monolayer of the first and second initiation precursors.

59. (new) The method of claim 57 wherein the contacting with the first initiation precursor and the contacting with the second initiation precursor occur simultaneously.

60. (new) A deposition method comprising:
simultaneously contacting a substrate with a plurality of initiation precursors, the substrate comprising a semiconductor material; and
chemisorbing on the substrate an initiation layer comprising components derived from each of the plurality of initiation precursors, the initiation layer consisting essentially of a monolayer.

61. (new) The deposition method of claim 60, wherein the initiation layer consists of a monolayer.

62. (new) A deposition method comprising:
simultaneously contacting a substrate with a plurality of initiation precursors, the substrate being over a bulk silicon wafer;
chemisorbing on the substrate an initiation layer comprising components derived from each of the plurality of initiation precursors; and
contacting the initiation layer with a deposition precursor and forming a deposition layer on one portion of the initiation layer derived from one initiation precursor and on another portion of the initiation layer derived from another initiation precursor, the one portion of the initiation layer being over a doped silicate glass portion of the substrate and the another portion of the initiation layer being over a polysilicon portion of the substrate.

63. (new) The method of claim 62 wherein the initiation layer consists essentially of a monolayer.

64. (new) A deposition method comprising:
providing a substrate having a first region and second region, the first and second regions each having a property causing a difference between the susceptibility of the first and second regions to formation of an initiation layer by a first initiation precursor, the substrate comprising a semiconductor material;

contacting the substrate with the first initiation precursor and forming the initiation layer on the first region; and

contacting at least a part of the substrate with a second initiation precursor and forming the initiation layer on the second region, but not over the first region.

65. (new) The deposition method of claim 64, wherein the semiconductor material comprises a bulk silicon wafer, the first region comprises an insulative material, and the second region comprises a capacitor storage node.

66. (new) The deposition method of claim 64, wherein the initiation layer consists essentially of a monolayer on the first and second region.

67. (new) The deposition method of claim 64, wherein the first initiation precursor forms a negligible, if any, amount of the initiation layer on the second region.

68. (new) The deposition method of claim 64, wherein the contacting with the first initiation precursor and the contacting with the second initiation precursor occur simultaneously.

69. (new) The deposition method of claim 64, wherein either the first or the second region is insulative and the other is conductive.

70. (new) The deposition method of claim 64, wherein the forming the initiation layer on the second region substantially fills holes in the initiation layer on the first region.

71. (new) The deposition method of claim 64, further comprising contacting the initiation layer on the first and second regions with a deposition precursor and forming a deposition layer on the initiation layer on the first and second regions.

72. (new) The deposition method of claim 71, further comprising contacting the deposition layer with a third initiation precursor different from both the first and second initiation precursor and forming a second initiation layer on the deposition layer.

73. (new) The deposition method of claim 71, wherein the deposition layer comprises aluminum oxide.

74. (new) A deposition method comprising:
contacting a substrate with a first initiation precursor and forming a first initiation layer on the substrate, the substrate comprising a semiconductor material;
contacting the first initiation layer with a deposition precursor different from the first initiation precursor and forming a deposition layer on the first initiation layer; and
contacting at least the deposition layer with a second initiation precursor different from the first initiation precursor and the deposition precursor, and forming a second initiation layer over the substrate.

75. (new) The deposition method of claim 74, wherein the semiconductor material comprises silicon and the deposition layer is comprised by a capacitor construction.

76. (new) The deposition method of claim 74, wherein the first initiation layer, deposition layer, and second initiation layer each consist essentially of a monolayer.

77. (new) The deposition method of claim 74, wherein the contacting with the second initiation precursor further comprises contacting a portion of the substrate on which the first initiation layer did not form and wherein the forming the second initiation layer occurs on at least such portion.

78. (new) The deposition method of claim 77, wherein the forming the second initiation layer substantially fills holes in the first initiation layer.

79. (new) A deposition method comprising:

contacting a first type surface of a substrate and a second type surface of the substrate different from the first type surface with a first initiation precursor forming an initiation layer substantially selectively on the first type surface relative to the second type surface, the substrate comprising a semiconductor material and the substantially selective forming leaving holes in the initiation layer and the first-type surface being different from the second-type surface as to at least one of a surface property and a composition;

contacting the second type surface with a second initiation precursor and forming the initiation layer on the second type surface but not over the first-type surface, the forming the initiation layer on the second type surface substantially filling the holes in the initiation layer; and

contacting the initiation layer on the first type surface and the second type surface with a deposition precursor and forming a deposition layer over the first type surface and the second type surface.

80. (new) The deposition method of claim 79, wherein the initiation layer and deposition layer each consist essentially of a monolayer.

81. (new) The deposition method of claim 79, wherein the first initiation precursor forms a negligible, if any, amount of the initiation layer on the second type surface.

82. (new) The deposition method of claim 79, wherein the contacting with the first initiation precursor and the contacting with the second initiation precursor occur simultaneously.

83. (new) The deposition method of claim 79, wherein either the first or the second type surface is insulative and the other is conductive.

84. (new) The deposition method of claim 79, wherein the contacting with the first initiation precursor and with the second initiation precursor occur separately.

85. (new) The deposition method of claim 79, further comprising contacting the deposition layer with a third initiation precursor different from both the first and second initiation precursor and forming a second initiation layer on the deposition layer.